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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/816,928

04/05/2004

Keun-Sik Chang

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EXAMINER

LAM, THANH

ART UNIT

PAPER NUMBER

2834

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

04/23/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/816,928

Applicant(s)

CHANG ET AL.

Examiner

Thanh Lam

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 28 February 2007.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-25 is/are pending in the application.
- 4a) Of the above claim(s) 6,8,10,15-17,19 and 20 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-5,7,9,11-14,18 and 22-25 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 05 April 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____.
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____.

DETAILED ACTION

1. Applicant's election with traverse of Species A, figures 1-4, claims 1-5,7,9,11-14, and 16-25 in the reply filed on 2/28/07 is acknowledged. The traversal is on the ground(s) that The Examiner has not set forth any of these criteria or any other criteria for establishing that there would be a serious burden if restriction is required. This is not found persuasive because of the Application contains unreasonable of Species and that is a separate status.

The requirement is still deemed proper and is therefore made FINAL.

Regarding claims 16-17, and 19-21 are further withdrawn for consideration because of they depend on the non-elected claim 15.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims 1,7,9,11-13,23-25 are rejected under 35 U.S.C. 102(e) as being anticipate by Heo et al. (US 6,881,042).

Regarding claims 1,11, Heo disclose a linear compressor comprising: an external casing (100) forming a compressing part; a mover (300) provided in the external casing and comprising: a main frame (322), an inner core assembly disposed inside of the

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main frame and comprising: an inner core (220), an upper cover (743) combined to an upper part of the inner core, and a bottom supporting part (710) combined to a bottom of the inner core, and a magnet (232) disposed in an opening of the inner core assembly; and an outer core disposed in the external casing.

Regarding claim 7, Heo disclose the inner core is made by stacking a plurality of core steel plates made by punching thin steel plates.

Regarding claim 9, Heo disclose the external casing is closed to an outside with an upper casing and a bottom casing welded to each other at an end of the upper casing and an end of the bottom casing.

Regarding claim 12, Heo disclose at least one connection member, wherein the upper cover is attached to the bottom supporting part by the at least one connection member.

Regarding claim 13, Heo disclose the inner core is cylinder-shaped.

Regarding claim 23, Heo disclose the compressing part comprising: a cylinder block forming a compressing chamber while supporting a bottom of the outer core; a piston reciprocating in the compressing chamber; and a cylinder head provided in a bottom of the cylinder block and having valves for a refrigerant.

Regarding claim 24, Heo disclose the outer core is provided on an outside of the mover with a predetermined gap relative to the magnet.

Regarding claim 25, Heo disclose the outer core further comprising a plurality of core steel plates having annular coils therein.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 2-5,14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Heo et al. in view of Yumita et al. (US 6,980,720).

Regarding claims 2 and 14, Heo et al. disclose all the aspect of the claimed invention except for the inner core comprising the plurality of core blocks are circumferentially arranged around the inner core at regular intervals.

Yumita et al. disclose the inner core (3) comprising the plurality of core blocks are circumferentially arranged around the inner core at regular intervals.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inner core of Heo et al. to accommodate the inner core arrangement as taught by Yumita et al. in order to ease the process of assembly.

Regarding claim 3, the proposal in combination of Heo and Yumita disclose each of the core steel plates comprising: an upper hook in an upper part thereof, and a bottom hook in a bottom part thereof; and the upper cover comprising an upper recess to engage with the upper hook; and the bottom supporting part comprising a bottom recess to be engaged to the bottom hook.

Regarding claim 4, the proposal in combination of Heo and Yumita disclose at least one connection member, wherein the upper cover and the bottom supporting part are connected to each other by the at least one connection member, which stands erect toward the bottom supporting part.

Regarding claim 5, the proposal in combination of Heo and Yumita disclose the at least one connection member comprising a bolt or a rivet disposed between the plurality of core blocks.

7. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heo et al. in view of Kim (US 2004/0258543).

Regarding claim 18, Heo et al. disclose all the aspect of the claimed invention except for the upper cover comprising a plurality of first connecting holes circumferentially arranged around the inner core.

Kim disclose the upper cover comprising a plurality of first connecting holes (231a) circumferentially arranged around the inner core.

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It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inner core of Heo et al. to accommodate the connecting holes as taught by Kim as set above in order to improve the process of the making the inner cores.

8. Claim 22 is rejected under 35 U.S.C. 103(a) as being unpatentable over Heo et al. in view of Kawakami et al. (US 4,632,645).

Regarding claim 22, Heo et al. disclose all the aspect of the claimed invention except for the at least one connection member is vertically positioned to the bottom supporting part.

Kawakami et al. disclose the at least one connection member is vertically positioned to the bottom supporting part.


It would have been obvious to one of ordinary skill in the art at the time the invention was made to modify the inner core of Heo et al. to accommodate the structure as taught by Kawakami et al. as set forth above in order to improve the inner core.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thanh Lam whose telephone number is (571) 272-2026. The examiner can normally be reached on tu-th 8-6.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Darren E. Schuberg can be reached on (571) 272-2044. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.



Thanh Lam
Primary Examiner
Art Unit 2834
